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THESIS

THE SEAMLESS MARITIME CONCEPT

by

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March 2005

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THE SEAMLESS MARITIME CONCEPT

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ABSTRACT

The Seamless Maritime Concept is the need to treat awareness, security, defense in a comprehensive, cohesive manner. Continuing discussion of maritime homeland security and defense capability requirements and resources allocation fails to recognize the unique requirements of the maritime domain. Enormous thought and resources have been put towards enhancing maritime homeland security and maritime homeland defense readiness. Unfortunately, the efforts to date treat "defense" and "security" disparately, ignoring the necessity to include all maritime domain partners. The Seamless Maritime Concept suggests that incremental changes to processes, boundaries, and markets have little chance to dramatically improve performance. The Seamless Maritime Concept suggests a new way of addressing the problem.

The Coast Guard's motto is "*Semper Paratus*" or "Always Ready." It reflects the quality of the people; the people will not let any obstacle prevent them from accomplishing the mission. Admiral Loy's "dull knife" declares the desperate need to re-capitalize the Coast Guard cutter and air craft fleets. And the Coast Guard's long standing record of success all combine to demonstrate that given some resource support that the Coast Guard can get it (maritime security) done. Conversely, failure to recapitalize will drive the Coast Guard toward obsolescence and preclude an opportunity to enhance the security and defense readiness of the maritime domain.

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CHAPTER I INTRODUCTION

Defending our Nation against its enemies is the first and fundamental commitment of the Federal Government. Today, that task has changed dramatically. Enemies in the past needed great armies and great industrial capabilities to endanger America. Now, shadowy networks of individuals can bring great chaos and suffering to our shores for less than it costs to purchase a single tank. Terrorists are organized to penetrate open societies and to turn the power of modern technologies against us.¹

Enhancing maritime homeland security and defense is a difficult task. The paper will examine what has been done and what is currently planned. The paper will suggest that our combined efforts thus far have been fractious and uncoordinated. It will then suggest how a Seamless Maritime Concept is required to guide future plans, forces, and resource allocation. An integrated, holistic approach is needed to provide security and defense options.

There are several significant assumptions that move the paper forward. First, the paper assumes that asymmetric terrorist attacks against the United States will continue. This is logical, given the tremendous effect of the attacks of September 11, 2001 (911), the continued existence of shadowy terrorist networks (such as Al Qaeda), and the United States' position as a sole world superpower. Second, the paper assumes that vulnerabilities continue to exist in the maritime domain. Our vast maritime frontiers, economic dependence on international commerce and national commitment to open markets mandates the need to enhance security and provide for proactive flexible defense.

¹ President George W. Bush, National Security Strategy, The White House, 17 September, 2002.

Finally, past and current plans to provide security and defense in the maritime homeland domain must be reviewed. We are making incremental changes to a maritime security apparatus developed without thought to asymmetric threats or guerrilla adversaries. Thus, a fresh look at counter-strategies and supporting force structure is appropriate.

Assistant Secretary of Defense for Homeland Defense, Mr. Paul McHale, highlighted the cooperative "agreement between the Coast Guard and Navy [as] simply recognition that our nation is best defended through the close coordination and combined capabilities of both services."² Mr. McHale's sagacious comments strike to the crux of the matter. Coordination, cooperation, and even a measure of integration must be evaluated in the harsh context of maritime homeland security and defense, roles and missions, and real budget constraints.

A. MARITIME ISSUES

1. Is the "Sleeping Giant" Really Awake?

After the December 7, 1941 attack on Pearl Harbor, Admiral Isoroku Yamamoto commented, "I fear that all we have done is awaken a sleeping giant, and fill it with a terrible resolve."³ In 1942 and 1943, the Sleeping Giant did, indeed, awaken. The vast industrial, economic, technical, and human capability of the United States was focused on defeating the Axis. The attack on Pearl Harbor was a rallying point for the United States.

² Chris Strohm, Govexec.com, Daily Briefing: Military Bolsters Maritime Security Role, 26 March, 2004, pg1

³ Admiral Isoroku Yamamoto, 1941, after the attack on Pearl Harbor

From 1941 to 1945 U.S. GDP nearly doubled; so did personal income. Increased taxation caused federal tax receipts to more than double; federal expenditures quadrupled. The federal budget went from a 1941 surplus 3.2% of GDP to a 1945 deficit of 12.3% of GDP. After tax corporate profits (with CCA and IVA adjustments) fell sharply as a percent of GDP; nominal corporate profits were the same in 1945 as in 1942. Reported inflation reached double digits during the war years in spite of price controls and rationing.⁴

This unity of purpose has not been replicated in post-911 response. The commitment to and impact of successful operations in Afghanistan and Iraq should not be overlooked or minimized. The United States has taken significant action since 911; a realignment of resources commensurate to the threat has begun. But, the technological advantage of the United States has not been mobilized in a manner similar to our industrial advantage in 1941. Our conventional success in Afghanistan and Iraq must be coupled with a response to counter the fugitive asymmetric threat that exists in the homeland. If the United States is to secure and protect the homeland, success abroad must be supported by action at home. *Status quo* will not enhance security or provide for flexible defense in the homeland.

2. The "Big Picture"

There are significant challenges. The maritime services must cooperate to develop strategic and operational plans, build maritime forces to execute those plans, and integrate Navy and Coast Guard operations. The Navy and Coast Guard must also lead the cooperation between

⁴ Awakening a Giant: a wartime model!, 30 October, 2001, Cumberland Advisor, Inc on webpage: <http://www.cumber.com/comments/103001.htm>

their departments to ensure full spectrum coverage across the maritime homeland defense and security mission spectrum.

Establishing new mechanisms and levels of cooperation will be enormous undertakings. However, establishing cooperation is the only way to tackle the maritime security problem. The problem is not cooperation of lack of cooperation; cooperation is critical to resolve maritime security issues. The intent of this paper is to focus on the United States littorals and ports, and even more specifically on the strategic plans and budgets for those maritime regions.

3. Lack of Coherent Policy

There is no agreement, process, or understanding between the DOD and DHS concerning mutual support to execute maritime homeland defense and security missions. There is no vision on how we will work together to provide a more secure homeland. The current model of cooperation outlines the smooth flow of Coast Guard forces to support the Navy and military operations. The construct has been reviewed, updated and revalidated. However, the flow of Navy forces to support the Coast Guard and maritime homeland domain missions conforms to standard agency Request For Assistance (RFA) protocols.

4. Navy's Response: Greater Flexibility Overseas (FORWARD). Dodging the Homeland Requirements?

Recently, the Navy has recognized the need to be more flexible and responsive to emerging threats, and the dynamic global security environment. For example, the Chief of Naval Operations, Admiral Vern Clark's 2004

testimony before the Senate Armed Forces Committee recognized the need for flexible response.

The war on terrorism and the unpredictability of the global security environment make this an immediate imperative. The nation needs a Navy that can provide homeland defense and be *both* forward and ready to surge forward to deliver overmatching and decisive combat power whenever and wherever needed. We are committed to do so.. . In simplest terms, rather than having only two or three CSGs forward-deployed and properly equipped at any one time - and an ability to surge only a maximum of two more - the FRP (Fleet Response Plan) enables us to now consistently deliver six forward deployed or ready to surge Carrier Strike Groups (CSGs) almost immediately, plus two additional CSGs in the basic training phase in 90 days or less. This FRP capability is commonly known as six plus two.⁵

However, the Navy's recognition of the need for flexible response focuses on forward, or overseas, warfighting and presence requirements and much less on the possible need to increase Navy operations near the United States homeland. The Navy continues to be fully deployed globally, and the Fleet Response Plan is an appropriate response to ensure the Navy continues to meet extensive deployment requirements. The persistent global presence and reach of the United States Navy clearly contributes to the maritime security of the homeland, but Navy's presence near the shores of the United States, in direct support to the Coast Guard's homeland security mission, is not a priority.

5. Maritime Homeland Security verse Maritime Homeland Defense

⁵ Admiral Vern Clark, Chief of Naval Operations, Testimony before Senate Armed Services Committee on 10 February, 2004. Pg 6.

There are numerous definitions floating around. No surprise that the Department of Defense and the Department of Homeland Security definitions are not only ambiguous, but contrary and counterproductive to mutual support.

Homeland Security

The definition in President George W. Bush's National Strategy for Homeland Security is "a concerted national effort to prevent terrorist attacks within the United States, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur." While this enables the President to articulate his vision more clearly, the debate is far from over. Congress continues to formulate its own definitions and concepts, and could expand the executive mandate beyond terrorism. For example, future missions might include missile defense, computer network operations, and coordination of governmental efforts to mitigate the effects of manmade and natural disasters.⁶

Homeland Defense

"Protection of U.S. territory, domestic population, and critical defense infrastructure against external threats and aggression." While this definition is somewhat imprecise, its intent is to underscore that there are certain missions only the U.S. military can perform for the nation. They include combat air patrols over the United States and maritime interdiction operations far from our shores-traditional military roles. All other domestic military requirements normally are labeled as civil support.⁷

Applying the definitions in the maritime domain has been problematic. For example, the Coast Guard has the capability to conduct global maritime intercept operations

⁶ Commander Lawrence K. Zelvin, US Navy, "Homeland Security Challenges DoD," Proceedings, 128 (November 2002), 66-7.

⁷ Commander Lawrence K. Zelvin, US Navy, "Homeland Security Challenges DoD," Proceedings, 128 (November 2002), 66-7.

(MIO). The Coast Guard believes they also have the authority to conduct boardings anyway. However, the Department of Defense feels that the authority transfers to the Combatant Commanders within their respective areas of responsibility. There is not a line in the water that clarifies the authority issue; the Coast Guard conducts global operations.

6. How Much Redundancy Should There be Between Departments

Capability and resource redundancy is expensive. However, contingency and surge compatibility is both necessary and appropriate. Where does appropriate compatibility and surge capacity become unnecessary redundancy? Navy and Coast Guard discussions concerning the Coast Guard as the national patrol boat manager, Deepwater communications and weapons systems interoperability, and deployment schedules are outstanding examples of complementary capabilities and cooperation. While the Navy's justification for capabilities is solely dependent on defense missions, the Coast Guard's justification includes readiness for defense missions and traditional Coast Guard missions. The redundancy discussion frequently fails to recognize that the Navy does not have a requirement to execute non-military missions. Moreover, the Coast Guard through its statute as a law enforcement agency and military service must be prepared for both. The same is not true of the Navy.

This doesn't mean that the Navy cannot be an appropriate supporting service during times of maritime homeland security duress; it just means the Navy force should not be built for that secondary purpose. The Navy's

warfighting capability set includes numerous assets that can augment the Coast Guard during crisis.

Some amount of redundancy is desirable. How much redundancy is appropriate is a constantly changing, depending of the security and defense environments, deployments, threats, resource status, etc. At a minimum the redundancy must include a Coast Guard force structure and capability mix sized for the non-military mission and readiness for defense missions. The Navy force structure planning and capability mix must be sized for military missions. The Navy does not need to be built to non-military mission specifications; however, that does not preclude the use of Navy resources and capabilities in dealing with homeland security contingency plans. A Seamless Maritime Concept would include all resources.

7. U.S. Northern Command

Just as the Department of Defense addressed the Soviet bomber threat and created the North American Air Defense Command (NORAD), so to the Department of Defense must evolve with the 911 threats. U.S. NORTHCOM is part of that evolution.

Just as NORAD established the relationship between Canada and the United States, between the Air Force and Air National Guard there are similar opportunities for U.S. NORTHCOM to resolve maritime warning and response capabilities, National Guard and reserve roles in domestic support events, and perhaps streamline civil support processes between the states, federal authorities, and Army.

8. Service Recapitalization Efforts, Interoperability, Cooperation

The services are engaged in re-capitalization plans and ongoing budget planning cycles; the services are committed to independent efforts to re-invent themselves.

Independent transformation potentially challenges interoperability and contingency plans. Similar to the discussion in response to redundancy between the services, the Navy must recognize the value of the Coast Guard partnership and the necessity to ensure the Coast Guard has the appropriate communications, weapons, and sensor systems to be compatible with the Navy.

For example, the Navy receives congressional funding to support the Coast Guard Cutters weapons and communications systems. The Coast Guard's Deepwater acquisition project started in 1997 and the first two ships are due to be delivered in 2006. The Navy funding does not fully cover the new systems and thus they have not committed to fund the weapons and communications systems aboard the new cutters. At present, the cutters will be delivered without those systems. The impact of the Navy's decision to not support the Deepwater weapons and communications capable substantially hinders the Coast Guard's interoperability requirement.

B. SCENARIOS

There are an infinite number of maritime scenarios. The multi-jurisdictional and geographic scenarios below illustrate just a few of the potential issues that seam driven strategies present.

#1 - Multi-jurisdictional and tracking: A small coastal freighter departs from the Guajira Peninsula on the Northern coast of Colombia. The freighter is just large enough to carry 6 containers, along with an assortment of typical coastal freighter goods. The coastal freighter island hops up through the Leeward Islands, dropping off and picking up cargo. Eventually the coastal freighter makes its way from the Leeward Islands up through the Bahamas, and then across the Florida Straights and into Miami. Small coastal freighters litter the sides of the Miami River. The coastal freighter is not large enough (300 gross tons) to be required to provide 96 hour pre-arrival notification, however the freighter provides advance notice. Once inside the U.S. territorial waters, the freighter continues towards the Miami River, passing by the Cruise Ship terminals. As the coastal freighter passes by the cruise ships, one of the containers explodes. The explosion is a conventional bomb, not nuclear, not chemical, and not biological. However, at the outset Customs, Coast Guard, Florida Marine Police, Miami Marine Police, port authority security, cruise ship security, the environment protection agency, state and county police, fire department, emergency responders and possibly the Florida National Guard all respond to the incident. Shortly after the incident is publicized, more federal authorities start to respond to the incident including the Federal Bureau of Investigation, the Department of Justice, the Department of Homeland Security, and U.S. Northern Command.

As the port of Miami is closed to preclude a potential second attack the commercial enterprises start to respond

to the incident, trying to move shipping in the area to a safer location and to ensure the ability to move the shipping.

The enormous uncoordinated response causes chaos in the port area, as the cruise terminal continue to burn.

At present, there is no ability to track the ship during its transit from Colombia. Also, the ship was not boarded prior to entry, but because it is less than 300 gross tons it is allowed to enter port. The ship explodes in a multi-jurisdictional area. The attack specifically takes advantage of the seam between agency and service responsibility, as well as the inability of the U.S. to pre-determine cargo before entry and to track the vessel during transit.

#2 - Geographic seam: There is intelligence that a ship bound for the U.S. is carrying illegal drugs, 2 tons of cocaine. In addition the ship may be carrying terrorists. The ship is detected by the Navy 12 miles off the coast of San Diego. The Navy does not have a Coast Guard Law Enforcement Detachment (LEDET) on board, and there are no Coast Guard or Customs vessels in the area. The Navy does not have the authority to board the vessel. The Navy briefs the situation through the chain of command. A short fuse discussion on whether the case is maritime homeland security or maritime homeland defense ensues. The risk of potential terrorists is weighed against the appearance of law enforcement inside U.S. territorial waters. The decision is made to have the Navy conduct a right of approach questions and to conduct a visit, board, search and seizure (VBSS) boarding. The Navy conducts the boarding and determines that there is 2 tons of cocaine on

board, but there are no terrorists. Has the Navy conducted a legitimate defense boarding, or have they conducted an illegal law enforcement boarding?

The scenario is not meant to spotlight *posse committatus*. The scenario is meant to spotlight the inability of the United States to shift Navy resources to the Coast Guard. If a Coast Guard Cutter had been on scene, the cutter could have conducted both missions. Similarly, if the Navy ship had a LEDET on board it could have conducted a law enforcement boarding. However, no mechanism is in place for Navy ships to shift to the Coast Guard to provide homeland security support. Conversely, there are mechanisms in place to shift Coast Guard Cutters to the Navy to support homeland defense missions. As the scenario demonstrates, the difference between a law enforcement event and a defense event may not be known until after interception and interdiction.

C. OBJECTIVES AND METHODOLOGY

This study reviews current policy and relationships, examining issues and explaining the rationale for change. The primary objective of the paper is to further the maritime homeland security and defense discussion, focusing on a new approach to the issues. The secondary purpose of the paper is to encourage action. For example, while the NFPS clearly articulates the National Fleet concept it has not been actualized or operationalized. A joint or combined programming office needs to be created. Similarly, the Memorandum of Agreement between the Department of Homeland Security and Department of Defense

establishing the Command and Control structure for the flow of Coast Guard forces in support of military operations has been revalidated. However, the reciprocal Memorandum of Agreement establishing the flow of Navy and Department of Defense resources to the Department of Homeland Security has stalled.

Third, there must be a discussion of current strategies, current acquisition commitments in the context of moving the discussion towards alignment and clarifying roles and missions. There needs to be a discussion of the road ahead, strategically and supported by a force plan.

D. POLICY OVERVIEW

1. National Fleet Policy Statement

The grand intent of the National Fleet Policy Statement⁸ (NFPS) has not been actualized. The policy statement and reaffirmation are clear, but the NFPS lacked specific mechanisms to establish joint programming offices or combined design efforts. Since the end of World War II, the Coast Guard has provided the Navy with expeditionary port security, maritime intercept expertise, and fleet operations tempo relief. Post-911, these important activities no longer, of themselves, demonstrate satisfactory integration or cooperation. Also, integration as outlined in non-binding agreements not endorsed by Department Secretaries or Congress, such as the National Fleet Policy, are dangerously misleading. Real and binding integration must be considered.

⁸ National Fleet Policy Statement of 2002, stated in entirety a content in footnote 41, page 48

2. The 1995 Memorandum of Agreement Concerning the USCG Capabilities and Resources to Support the National Military Strategy

The 1995 Memorandum of Agreement (MOA) between the Department of Defense and Department of Transportation concerning Coast Guard capabilities and resources to support the National Military Strategy defines the strategic relationship between the Navy and Coast Guard. Ironically, this MOA boils down to Coast Guard support to the Combatant Commanders; a one-stop-shopping list of Coast Guard capabilities available to support defense missions. The MOA is outdated because Coast Guard capabilities have not been updated, and because the agreement does not recognize the role of Navy support to the Coast Guard for maritime homeland domain missions.

While the Department of Defense's 2001 Quadrennial Defense Review unequivocally stated the highest priority of the U. S. military is to defend the homeland from attack by any enemy, which includes terrorists, there has been little evidence to suggest that either the Department of Defense or the Navy are acting proactively to adapt to new priorities.⁹

In fact the General Accounting Office was asked to assess the Department of Defense structure of U.S. forces for domestic military missions. The report was 79 pages long, but the only mention of the Navy in the context of homeland defense was to fill in the blanks of a personnel tempo discussion of all the services.¹⁰

⁹ U. S. General Accounting Office, Homeland Defense: DOD Needs to Assess the Structure of U. S. Forces for Domestic Military Missions, (GAO-03-670, Washington, D. C.: Jul. 11, 2003).

¹⁰ Quadrennial Defense Review Report, Department of Defense, 30 September 2001.

However the *Coast Guard's Maritime Homeland Security Strategy* addressed security issues related to the *National Security Strategy* and the *National Strategy for Homeland Security* (see Figure 1).

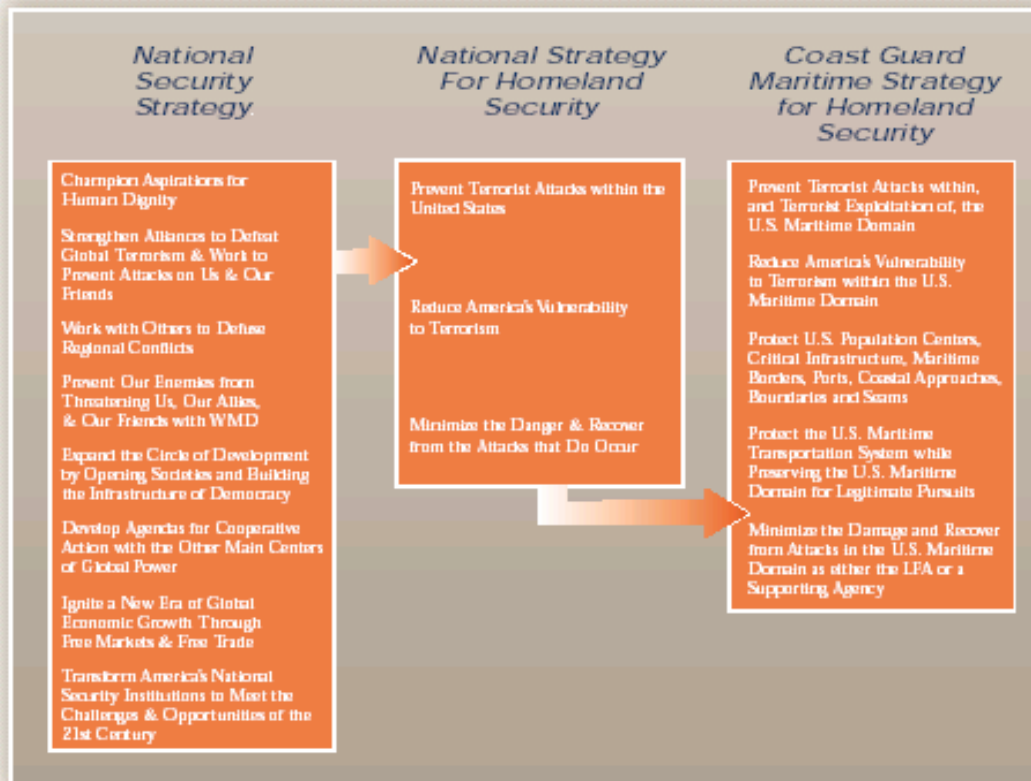


Figure 1. Alignment of Strategic Objectives¹¹

The *National Security Strategy for the United States of America* states, "the aim of the strategy is to help make the world not just safer but better. Our goals on the path to progress are clear: political and economic freedom, peaceful relations with other states, and respect for human dignity. To achieve these goals, the United States will... transform America's national security institutions to meet

¹¹ Maritime Strategy for Homeland Security, U.S. Coast Guard, U.S. Coast Guard Headquarters, Washington D.C., December 2002, pg 17.

the challenges and opportunities of the twenty-first century."¹² The clear implication is that we must adapt to the new threats, new environment, and leverage technology to aid in the effort.

National Security Strategy of the United States of America states the military will: "assure our allies and friends; dissuade future military competition; deter threats against the U.S. interests, allies, and friends; and decisively defeat any adversary if deterrence fails."¹³

The 2004 *National Defense Strategy* states:

The Department must take action to secure the United States from direct attack and counter, at a safe distance, those who seek to harm the country. . . work to secure strategic access . . . and the global commons of international waters, airspace, space, and cyberspace. More specifically, the four defense objectives are to: secure the United States from direct attack, secure strategic access and retain global freedom of action, establish security conditions conducive to a favorable international order, and strengthen alliances and partnerships to contend with common challenges.¹⁴

The role of the *National Military Strategy* provides focus for military activities by defining a set of interrelated military objectives from which the Service Chiefs and Combatant Commanders identify desired capabilities and against which the Chairman of the Joint Chiefs of Staff assesses risk.¹⁵ In addition the *National*

¹² The National Security Strategy for the United States of America, Seal of the President of the United States, September 2002, pages 1 - 2.

¹³ The National Security Strategy for the United States of America, Seal of the President of the United States, September 2002, page 29.

¹⁴ National Military Strategy of the United States of America, A Strategy for Today; A Vision for Tomorrow, 2004, pg 1.

¹⁵ National Military Strategy of the United States of America, A Strategy for Today; A Vision for Tomorrow, 2004, page iv.

Military Strategy defines the environment, guiding principles, military objectives, desirable force attributes, and capabilities and functions. The strategy clearly states "today, our first priority is to protect the United States."¹⁶

The flow from the *National Security Strategy*, to the *National Military Strategy* seems clear. Protecting the homeland from attack is the top priority, and that will require a fully integrated all domain, all component, national effort to accomplish. It seems logical that all domain includes the strategic homeland approaches, however, while the strategic document are unanimous in declaring the importance of the homeland there is an action gap in actual defense presence in the homeland strategic approaches.

The *Maritime Strategy for Homeland Security* derived strategic objectives from the *National Strategy for Homeland Security*.¹⁷ The objectives are to: prevent, reduce, protect, and minimize and recover in the maritime domain.¹⁸ Just as the defense strategic documents flow smoothly from one to the next, so too do the security strategic documents. However, just as there has not been any change to maritime defense operations the maritime security operations have only changed marginally.

¹⁶ National Military Strategy of the United States of America, A Strategy for Today; A Vision for Tomorrow, 2004, page 8.

¹⁷ National Strategy for Homeland Security, The White House Office of Homeland Security, July 2002.

¹⁸ Maritime Strategy for Homeland Security, Coast Guard Publication 3-01, U. S. Coast Guard, U.S. Coast Guard Headquarters, Washington DC, December 2002, page 2.

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CHAPTER II: STRATEGY AND BUDGET CHALLENGES

The *National Strategy for Homeland Security* and the *Maritime Homeland Security Strategy* provide a very sterile look at maritime homeland security. Neither strategy discusses the maritime homeland defense, or the complex mutual dependencies between maritime homeland security and defense. It is more than problematic to develop a comprehensive maritime homeland security strategy in isolation and independent of a maritime homeland defense strategy, similarly developing a maritime homeland defense strategy ignorant of the maritime homeland security strategy is not feasible. The relationship between maritime homeland security, maritime homeland defense, and even forward presence is complex, intertwined, and perhaps most significantly interdependent. Successful maritime homeland security and defense strategies must be contiguous. A strong strategy for security lends itself to a strong strategy for defense, and of course a strong homeland security and defense strategy enables forward presence.

Homeland Defense?

The threat of terrorism altered some military operations... the current defense strategy, published in the 2001 Quadrennial Defense Review Report, states that the highest priority of the U.S. military is to defend the homeland from attack by any enemy, which includes terrorists."¹⁹

Perhaps, the Department of Homeland Security, Department of Defense, Department of the Navy, the Navy,

¹⁹ U. S. General Accounting Office, *Homeland Defense: DOD Needs to Assess the Structure of U. S. Forces for Domestic Military Missions*, (GAO-03-670, Washington, D. C.: Jul. 11, 2003).

and the Coast Guard all need to work together to reach the best possible assignment of roles and responsibilities along with symbiotic interaction between strategies.

The challenge is not merely defining roles and developing the strategy. The extreme difficulty in the challenge is bringing disparate entities together to work with a single focus and purpose.

The Navy has reiterated the 2001 Quadrennial Defense Review statement that homeland defense is the highest priority to mean that response to a terror attack is the highest response. However, the Navy remains fully deployed and focused forward. There Navy continues to participate in dialogue with the Coast Guard and homeland security partners, however the Navy has not diverted any resources or capabilities to the U.S. coastal defense missions.

A. MARITIME DEFENSE ZONE (MDZ)

In 1980, Congress mandated a review of Coast Guard roles and mission to identify areas the Coast Guard could enhance defense capabilities within statutory limitations. At the March 19, 1981 the Navy Coast Guard (NAVGAARD) Board reviewed a study on Coast Guard wartime tasking. The recommendation of the study concerned the formal linkage of the existing Coast Guard management and control organization for U.S. coastal area to the Fleet Commander-in-Chief on each coast. Specifically, Coast Guard Area Commanders could be assigned as U.S. MDZ Commanders,

responsible to the Navy Fleet Commanders-in-Chief for planning and coordination of the U.S. coastal defense.²⁰

MDZs were not the first attempt by Navy or Defense Department to address coastal defense. Coastal defense has a long history, going back to the very birth of the United States. The attention paid to coastal defense has been cyclical. During World War I, coastal defense was a significant priority. In the aftermath of World War I the Navy shifted focus to forward deployments, forward presence, and bristled at the need for coastal defense. At advent of World War II demonstrated the failure of homeland defense and again a premium was put on coastal defense forces. After World War II and at the beginning of the Cold War, the Army dissolved their Coastal Artillery Corps and the Navy turned the Coast Guard back to the Treasury Department, rolled up its harbor nets, decommissioned its net layers, and used its Naval District and Sea Frontier commands for logistics and administration, not for homeland defense. In response to the Korean War there was a flurry of concern about mine warfare, harbor defense, and coastal defense. However, the Navy resolved that to focus on convoys, or naval control of shipping. During the Cold War the Navy deployed a variety of systems to provide for a coastal defense, include: underwater sound systems, maritime patrol aircraft and blimps, and antisubmarine carrier task forces. In the 1970s the Navy's interest in coastal defense was drawn forward. The Navy's U.S. coastal defense efforts had diminished, albeit the Navy and Coast

²⁰ U.S. Maritime Defense Zone (MDZ) Commanders; designation of, OPNAV Instruction 5450.211 and COMDT Instruction 5450.1, 21 March 1984

Guard had rekindled their relationship. The relationship was focused forward, to support Market Time and Stable Door.²¹

The MDZ command and control structure established areas of responsibility and acknowledged the primacy of the Coast Guard in coastal defense. The plan has never been exercised. As evidenced by the Navy's cyclical attention to U.S. coastal defense, the Navy has been reluctant during peacetime to provide the necessary assets to train and exercise for homeland defense. Just as the Defense Department and the Navy spun into action during each conflict in our history, the Global War on Terrorism and Iraqi Freedom demand close examination of our homeland coastal defense readiness. In conclusion, the Navy's efforts forward are exemplary and the MDZ construct to designate the Coast Guard as the lead for U.S. Coastal Defense appears as an ideal use of resources to maximize the benefit of the U.S. National Fleet capabilities. However, if the construct is to be changed it is still part of the U.S. Code (14 U.S. Code 89, revision note 10 Nov, 1986) and can not be discarded without explanation and approval of Congress.

Moreover, the motivations that lead the Department of Defense and the Congress to create maritime defense zones supporting command structure needs to be evaluated against the current requirements. The Navy's focus on projecting power and concentration of effort, strategy, and resources forward is an appropriate response to the *National Security Strategy* and *National Military Strategy*. The Department of

²¹ Peter Schwartz, Forward ... From the Start": The U.S. Navy & Homeland Defense: 1775-2003, Center for Naval Analysis, Center for Strategic Analysis, February 2003.

Defense and Navy's reluctance to provide U.S. coastal defense support, could be attributed to extensive commitments globally as well as the Navy's predilection toward forward presence verse homeland defense. It appears the situation calls for a re-affirmation of the MDZ construct and Coast Guard leadership, and coordination between the services and Departments to appropriately source U.S. coastal defense.

B. LAYERED DEFENSE

The concept of defense in depth is perhaps pre-Clausewitz. Our current strategic documents all neatly conform to the desire to provide defense in depth. MDZs are just one aspect of the layered defense. However, just as defense must be layered between the homeland, littorals, high seas, sea lines of communication, and foreign waters the defense within each must also be layered.

A network of layered defense is needed in the maritime domain risks oversimplifying the problem. There are several significant and competing issues. The maritime homeland defense and security missions will likely occur in the same time and space continuums and require flexibility in execution to ensure timely response. Meeting the mission across the port, littorals, approaches, and forward presence areas of operations requires clearly defined requirements and responsibilities. The issue of establishing protocols for smooth transition of command across the responsibility or mission seams has not been resolved.

C. ASSESSMENT OF THE CURRENT SITUATION (COAST GUARD)

The assessment of the current situation will address the connectivity between strategy and resource employment, the effectiveness of resources, and coordination of the employment of the national fleet.

1. Connectivity Between Resources and Strategy

In a post-911 assessment of challenges facing the Coast Guard the U.S. General Accounting Office (GAO) reported:

The Coast Guard faces fundamental and daunting challenges during its transition to the new department. Delays in the planned modernization of cutters and other equipment, responsibility for new security-related tasks as directed under the Maritime Transportation Security Act (MTSA), and mandatory responses to unexpected events, such as terrorist attacks or extended terror alerts, will have an impact on the Coast Guard's ability to meet its new security-related responsibilities while rebuilding its capacity in other missions. Also, as one of the agencies being merged into the new department, the Coast Guard must deal with a myriad of organizational, human capital, acquisition, and technology issues. The enormity of these challenges requires the development of a comprehensive blueprint or strategy that addresses how the Coast Guard should balance and monitor resource use among its various missions in light of its new operating reality.²²

²² U. S. General Accounting Office, Coast Guard: Challenges during the Transition to the Department of Homeland Security, (GAO-03-594T, Washington, D.C.: Apr. 3, 2003).

The report fairly points out the enormity and significance of the task, and the need for the Coast Guard to develop an overarching strategy to address all the issues.

2. Effectiveness of Resources

In several reports, the GOA recommended the Coast Guard develop more accurate accounting of resources expended as related to performance achieved.²³ The Coast Guard has generally agreed with each of the GAO reports; however changing the current effectiveness metrics in place has been difficult. Further, the Coast Guard has been in the awkward position of seeing their aging fleet of cutters and aircraft diminish in effectiveness while the longstanding metrics of effectiveness have not significantly changed.²⁴ The Coast Guard's efforts to expedite the Deepwater Projects delivery of new cutters and aircraft has been favorably received by Congress and the fiscal year 2005 appropriation fully funds Deepwater Project. Further consideration of expediting and increasing the size of the Deepwater acquisition is appropriate and ongoing.

²³ U. S. General Accounting Office, *Coast Guard: Key Management and Budget Challenges for Fiscal Year 2005 and Beyond*, (GAO-04-636T, Washington, D.C.: Apr. 7, 2004); and U. S. General Accounting Office, *Coast Guard: Relationship between Resources Used and Results Achieved Needs to be Clearer*, (GAO-04-432, Washington, D.C.: Mar. 22, 2004); and *Coast Guard: Strategy Needed for Setting and Monitoring Levels of Effort for All Missions*, (GAO-03-155, Washington, D.C.: Nov. 12, 2002).

²⁴ State of the Coast Guard Address, Admiral Thomas Collins, National Press Club, 25 March, 2004.

3. National Fleet

The Coast Guard and Navy are perhaps more fully deployed than they have been in decades. The services continue dialogue on the advantages of a National Fleet from both operational and acquisition perspectives. Moving to future projects and operations there is reason for optimism. The current full employment of Coast Guard and Navy resources leaves little flexibility for the services to implement economies today. This is not to suggest the services are spending a dollar today to save five cents tomorrow, or that the services are not meeting all obligations. More over, it appears the services have very little surge capacity left to experiment with new combined operational employment concepts. Also, the Coast Guard is under increasing pressure to expedite the Deepwater acquisition of new cutters and aircraft. While the Coast Guard and Navy have shared information during the acquisition process, the informality of the sharing and the demands on each service and Congressional mandates have precluded joint programming efforts.

D. UNIQUENESS OF THE MARITIME DOMAIN

Providing for security and defense readiness within the maritime domain presents a unique set of characteristics. Some of these are characteristics are:

Characteristics

Time - Space Continuum: Since the air domain has already established the utility of the NORAD model for threat monitoring, detection and warning there is a tendency to attempt to apply the same concepts to the

maritime domain. The monitoring, detection and warning are worthwhile concepts to emulate. However, the air domain is significantly aided by strictly controlled air space and extremely limited threat loiter time. For example, if the threat is in the air it has to check in somewhere and it has a very limited amount of time it can stay in the air. This enables the air domain, NORAD, to assess and address the situation within minutes. In the maritime domain, there is no check in or monitoring process. Also the threat loiter time can be measured in months verse air domains hours or minutes.

Technology: Again, comparative to the air domain there has been an enormous amount of technological development to enhance security and defense responsiveness in the air domain compared to the maritime domain. For example, the maritime domain is just now implementing an automated identification system (AIS). The system will enable tracking of ships in the maritime domain. While the Maritime Transportation Safety Act (MTSA) of 2002 mandated the implementation of AIS, it did not mandate carriage on all vessels. The implementation of AIS is still in the inaugural stages. The Coast Guard is still expanding infrastructure to be able to manage the enormous increase in information flow as well as developing plans to expand the requirement for carriage to all vessels.²⁵

Focus: The 911 attacks took advantage of vulnerabilities in the air domain. While vulnerabilities exist in the maritime, land, cyber, and numerous other domains the emphasis has been on securing the air domain.

²⁵ Hearing on Implementation of the Maritime Transportation Security Act of 2002, before the House Subcommittee on Coast Guard and Maritime Transportation, June 9, 2004.

This is not to suggest that efforts have not been made in all domains, or that progress has not been made in all domains, just to acknowledge the emphasis has been placed on the air domain.

Awareness: The impact of an attack taking advantage of the maritime domain vulnerabilities could be catastrophic. The damage to the U.S. economy from an attack in the ports or maritime domain could have a similar economic impact as the 911 attacks. Some believe a successful maritime attack could be much more devastating.²⁶

Seams: There are several significant seams. One of the seams is the confusion over roles and missions in maritime homeland security and defense between the Navy and Coast Guard. Another is the confusion over when law enforcement becomes military operations and when military operations become law enforcement. Another is the difficult maritime geography, who is responsible for where? Also important is the information sharing seam between; military, Federal enforcement agencies, State and local agencies, commercial enterprise.

Unity of Command and Purpose: There are numerous military, Federal, State and Local, and commercial entities that bring capabilities, resources, and information to the maritime security and defense table. However, there is no single entity with over arching responsibility. Also, the purposes for cooperation vary significantly; clearly the cooperation from commercial enterprise is significant and critical to success. However, the motivation of commercial

²⁶ Stephen Flynn, America the Vulnerable How Our Government Is Failing to Protect Us from Terrorism, HarperCollins Publishers in cooperation with Council on Foreign Relations, New York, NY. 2004

enterprise is not likely the same as Federal enforcement agencies or military services.

There are other seams, however these seams help to paint the picture that the maritime domain is unique and must be treated differently than the other domains. Just as effective measure in the maritime domain may not be appropriate to the air or cyber domains.

E. STRATEGIC BUDGET ISSUES

Our previous Commandant, the current Deputy Secretary of the Department of Homeland Security Admiral Loy, related in his State of the Coast Guard address in 1999 that there were two ways the a knife could loose its edge; either from lack of use, or from over use. Standing too many quiet watches when threats do not materialize could lead to complacency. Conversely, if you overworked a sharp knife it could become dull - more dull than it could ever become from disuse. He summarized the analogy by stating that a dull knife is a dangerous tool - dangerous to both the Coast Guard people and the American people who depend on us (Coast Guard).²⁷ The Coast Guard has been addressing resource and capability shortfalls since before 911 and continues today.

The Coast Guard's motto is "*Semper Paratus*" or "Always Ready." It reflects the quality of the people, the people will not let any obstacle prevent them from accomplishing the mission. Admiral Loy's "dull knife" declares the desperate need to re-capitalize the Coast Guard cutter and

²⁷ Admiral James Loy, Commandant of the Coast Guard, State of the Coast Guard Address in 1999, May 4, 1999.

air craft fleets. And the Coast Guard's long standing record of success all combine to demonstrate that given some resource support that the Coast Guard can get it (maritime security) done. Conversely, failure to recapitalize will drive the Coast Guard toward obsolescence and preclude an opportunity to enhance the security and defense readiness of the maritime domain.

The Coast Guard has been designated to take a lead role in maritime security. However, the lead role for maritime security makes the recapitalization of Coast Guard capabilities even more urgent, than pre-911 desperation.

F. SUMMARY

The challenges to developing a comprehensive maritime homeland security strategy, supporting budget, and command structure are significant. The vulnerabilities within the maritime domain are significant and the threat will continue to evolve in proportion to our sophistication in dealing with maritime security. However, the resources available to improve security are also significant. It would be a mistake to wait for the next maritime 911.

The way ahead must be viewed from the context of the entire maritime domain, entire resource requirements (and current resources), as well as various roles each service and agency must perform.

CHAPTER III: THE WAY AHEAD - STRATEGY

A. BLUE OCEAN STRATEGY²⁸

The business model 'blue ocean strategy' is applicable to the maritime security and defense missions as it is to business. Simply, the blue ocean strategy suggests the best way to generate rapid profit growth is not through incremental process changes or to introduce marginally variant products.²⁹ The strategy is to identify completely new and unmet customer needs, 'blue oceans', and look to streamline production processes to reduce costs while increasing profits. An excellent example demonstrating both the power and profitability of this strategy is the Cirque du Soleil. The Cirque du Soleil is a result of the effort to reduce the production costs and overhead associated with running a circus, improve the entertainment value, and create a new market. Cirque du Soleil's combination of ballet, circus acrobatics, and elimination of costly animal maintenance overhead has enabled them to increase ticket price while decreasing overhead costs. Cirque du Soleil's success is directly attributable to the value in looking at age old entertainment, the circus and ballet, and recognizing the value of the strengths of each and leveraging those strengths into a new market. The Cirque du Soleil is a dramatic example of the blue ocean strategy. Similar but less dramatic would be to introduce existing products to new markets, for example importing

²⁸ W. Chan Kim and Renee Mauborgne, Blue Ocean Strategy, Harvard Business Review, October 2004, page 76.

²⁹ W. Chan Kim and Renee Mauborgne, Blue Ocean Strategy, Harvard Business Review, October 2004, page 76-84.

Coca-Cola to China. China provides exposure to an untapped large marketplace, and consequently offers the opportunity to increase production, gain economies of mass, while increasing profits at the margins and through mass.

However, the business model named 'blue ocean strategy' is confusing in the discussion of maritime homeland security and defense. Thus for clarity, application of the 'blue ocean strategy' business concepts will be referred to as Seamless Maritime Concept.

B. HOMELAND SECURITY AND DEFENSE

The maritime homeland security and defense operations fail to recognize the marketplace, area of responsibility, has changed significantly. There has been an enormous amount of thought put into enhanced maritime homeland security and maritime homeland defense readiness. Unfortunately most efforts have treated each separately and ignored the necessity to include all maritime domain partners, not just the Department of Defense and Department of Homeland Security and not just the Navy and Coast Guard. The Seamless Maritime Concept suggests that incremental changes to processes, boundaries, and markets have little chance to dramatically improve performance. Maritime homeland security and defense performance reasonably means economic efficiency and operational performance. For example, the Coast Guard's has traditionally provided domestic port security by increasing the number of law enforcement patrols performed in a particular harbor, port, or bay. Typically, several Coast Guard 41 foot boats would maintain presence in the area 'secured.' Current Coast

Guard maritime security patrols include these same minimally equipped boats patrolling the harbor. The operations fail to recognize the marketplace, area of responsibility, has changed significantly. A poorly armed, slow, *small* boat is not likely to be successful against a terrorist attack. Similarly, a forty year old Coast Guard Cutter maintaining surveillance and warning offshore, is neither likely to detect or respond to a terrorist threat.

Both the Coast Guard and Navy are guilty of fully employed fleets and resources with little remaining surge capability to meet the new responsibilities. The threat has changed, and so to must our strategy, plans, and resources.

C. LITTORALS

The Chief of Naval Operations, Admiral Vern Clark, stated that he believed the maritime domain needed a 'maritime NORAD' of sorts.³⁰ Admiral Clark's suggestion is the first stab at applying the Seamless Maritime Concept. Suggesting that the maritime domain needs a surveillance, detection, warning, and response system similar to NORAD is extraordinarily insightful.

1. Homeland Security and Defense are Contiguous

However, the suggestion does not address the gap between maritime homeland security and maritime homeland

³⁰ Admiral Vern Clark remarks, "*Meeting the Homeland Defense Challenge: Maritime and Other Critical Dimensions*", Sponsored by the Institute for Foreign Policy Analysis and the Fletcher School of Law and Diplomacy, Cambridge, MA., March 26, 2002.

defense. Unfortunately, the reaction to the comments has been to overly focus on either NORAD, or clarification of roles and missions.

In terms of the Seamless Maritime Concept, the emergence and intensity of the asymmetric maritime threat and the potentially catastrophic impact to the global economy provides a real opportunity to initiate new plans and processes. For example, while the Circ de Soleil, circus and ballet, example are trite in comparison to the consequences associated with maritime homeland security and defense the opportunity to take the best from each is very real. Cataloging some of the strengths associated with defense³¹ and security:

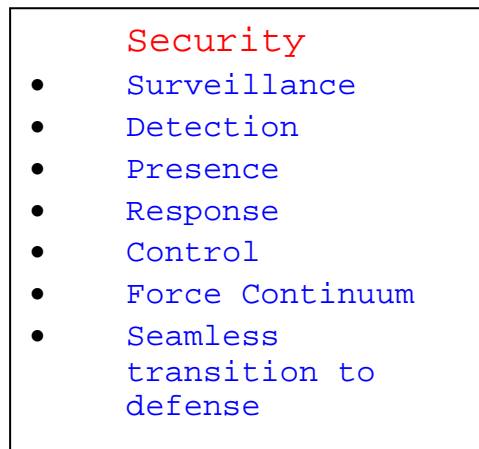


Figure 2. Maritime Security Strengths

³¹ National Military Strategy of the United States of America, A Strategy for Today; A Vision for Tomorrow, 2004, pg14.

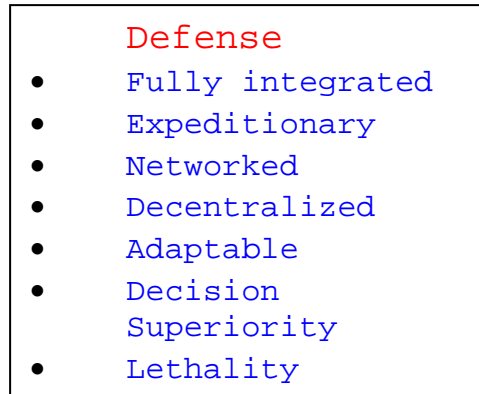


Figure 3. Maritime Defense Strengths

The asymmetric maritime threat in the strategic approaches to both our homeland and economic foundation present an emerging operational challenge - significant vulnerability combined with increased threat. Historical maritime defense and security capabilities are neither appropriate nor capable of reducing vulnerability. In a sense, this provides the Seamless Maritime Concept as the revolutionary and innovative plans, tactics, and resource and technology development and application in the maritime domain.

The benefit in utilizing the Seamless Maritime Concept analogy is that it breaks from the more conventional effort to make incremental changes to plans and resources. Or more conspicuously, it breaks from the effort to apply long standing practices and resources to a fundamentally new situation and set of circumstances.

For example, the use of Coast Guard Cutters designed and built in the 1960s primarily for search and rescue missions is inadequate to the task of dominance in the

maritime strategic approaches.³² Likewise, Naval Combatants designed and built in the 1980s to provide 'forward presence' and 'sea strike' are similarly inappropriate to the task of dominance in the U.S. coastal approaches.

The table below provides a combined listing of the security and defense strengths.

Maritime Security & Defense
• Surveillance, detection, warning
• Fully integrated
• Presence - Virtual and physical
• Expeditionary - rapid response
• Networked - across response domains
• Decentralized - functional verse departmental
• Adaptable
• Decision Superiority

Figure 4. Integrated Maritime Security and Defense Strengths

The current set of strategies adequately describes what is needed in the maritime homeland security and defense mission sets. The strategies are more than mutually supporting, that are the same strategy applied to the same situation written by different Departments. More over, to be successful the implementation and execution of the strategies must be viewed with a single purpose. Maritime homeland security and defense strategies and

³² Jane's Fighting Ships, Reliance Class (WMEC), 14 April, 2004 at website:

missions are mutually dependent and supportive to the point of being indistinguishable. Thus, a strategy for maritime homeland security and defense does not need to define boundaries between security and defense, but it must embrace that there are no boundaries.

The threat in the maritime homeland domain and commensurate threat to the United States economy dictate the best possible solution. Succumbing to the political maneuverings in order to achieve a measure of effectiveness has significantly increased risk. For example, since 1797 the Coast Guard has been ready to defend the seacoast and repel any hostility towards vessels or commerce.³³ Port security has always been part of the military mission set.³⁴ Port and waterways security is listed as a subset of the Coast Guard's National Defense mission set on the Coast Guard webpage.³⁵ However, the Coast Guard only receives budget authorizations for law enforcement related port security and a budget supplemental when port security missions are defense related and expeditionary. Simply put, the Navy and Department of Defense treat the missions as Coast Guard missions, not military missions, and do not provide support. The unfortunate reality is that the world, and maritime domain specifically, are much more complex and port security and defense missions exist in both the domestic and expeditionary arenas.

³³ Center for Naval Analyses, U.S. Coast Guard: Purpose, Characteristics, Contributions, and Worth to the Nation, CAPT Patrick H. Roth, USN (Ret.) with Richard D Kohout, May 1997, page 11.

³⁴ 1995 MOU Between DOD and DOT concerning the USCG capabilities and resources available to support the National Military Strategy, Annex C

³⁵ Coast Guard webpage, factfile related to missions, accessible at: <http://www.uscg.mil/hq/g-cp/comrel/factfile/Factcards/PSUs.html>, 15 December 2004

2. Maritime NORAD

The 'maritime NORAD'³⁶ model suggestion is another over simplification of the maritime domain by comparison to the air domain. Admiral Vern Clark, the Chief of Naval Operations suggested the model only as a vision picture to illustrate how to describe maritime information and response requirements. There needs to be a maritime application of surveillance, detection, warning, and rapid response. Similar to the NORAD set of networked sensors providing early warning, so too the maritime domain must develop an integrated set of sensors to cover the maritime domain. In addition, the NORAD rapid response piece could be emulated in the maritime domain. However, the similarity is only at the very lofty strategic level. Application of the NORAD strategy template in the maritime domain would appear significantly different in application.

For example, the maritime domain sensor piece will require the integration of:

- sophisticated over-the-horizon detection and monitoring capabilities
- along with database integration,
- automatic satellite identification-location polling,
- aircraft and surface vessel tracking and identification,
- flexible response across the use of force continuum (presence to law enforcement through defense),
- as well as all domain response (boarding teams, Special Weapons and Tactics teams, Cutters, Combatants, Aircraft (fixed and rotary)).

³⁶ Admiral Vern Clark remarks, "*Meeting the Homeland Defense Challenge: Maritime and Other Critical Dimensions*", Sponsored by the Institute for Foreign Policy Analysis and the Fletcher School of Law and Diplomacy, Cambridge, MA., March 26, 2002.

The Coast Guard's Maritime Domain Awareness concept supposes the need for complete knowledge, across the security and defense spectrum, globally, and all the time.³⁷ More realistically, the NORAD model provides an illustrative example of focusing effort toward threat and vulnerability. Likewise, our surveillance-detection-identification-decision superiority-response capability must be comprehensive and sophisticated guarding the strategic approach and littorals applicable to the port of Los Angeles-Long Beach, California. However, the sophistication necessary to protect the port of Eureka (Humboldt Bay), California is significantly less. The vulnerability, threat, and catastrophic consequences are significantly different and the operational plan must acknowledge the difference to maximize both efficiency and economy.

To achieve the strategic tenants of prevention, vulnerability reduction, and minimization of damage and recovery we must employ the full set of maritime security and defense functional capabilities.

The maritime security and defense dialogue has been distorted by the lack of understanding of the maritime domain in the context of the catastrophic impact to the global economy if there were a successful attack. However, the most basic principle of warfare has been to defend what is important (Clausewitzian corollary is to attack only what is significant)³⁸. Similarly, the most basic principle in security is to secure what is valuable and important.

³⁷ Maritime Domain Awareness Concept of Operations, Maritime Domain Awareness Plans, Programs and Assessments Office, 19 March 2004 (DRAFT)

³⁸ Michael I. Handel, *Masters of War: Classical Strategic Thought*, Frank Cass Publishers; 3rd Rev edition (April 1, 2001)

For example, banks set up their security systems to protect the vault, not the parking lot.

In the maritime domain, it is absolutely necessary to recognize the difference between guarding Los Angeles-Long Beach, California as compared to Eureka, California. Failure to recognize the difference ensures they're all the same, which essentially means that each of the 261 ports in the country, the 95,000 miles of coastline, and even the hundreds of thousands of square miles of sovereign territorial seas, littorals and strategic approaches are all treated the same.

Risk management, efficient resource utilization, and threat-vulnerability prioritization have been fundamental to every national strategy ever developed.

The proper balance between the stated strategies and an appropriate implementation plan is to ground the plan within the reality of risk management, verse the context of risk elimination.

The Department of Homeland Security and the Coast Guard have already identified the 55 tier one ports. It seems reasonable to state that the maritime security and defense plan should address each of these ports. Strategic, economic, political, and symbolic ports present unique vulnerabilities Los Angeles-Long Beach, Chesapeake Bay (the coastal access to the capital region), and New York City demand attention because of their strategic, political, economic, and even symbolic importance to the country. Likewise, there are numerous small ports around the country that are locally significant, but strategically neutral.

3. The Risk Concept

A comprehensive plan that integrates the national strategy objectives, functional capabilities strengths, and risk management provides the opportunity to maintain security where ever necessary as well as the opportunity to surge forces into specified threat areas or random pulse operations. The plan allows for significant attention to be paid to Los Angeles-Long Beach, New York City, the Chesapeake Bay, and several other critical ports. In addition, a roving capability could be imported to another and set of ports like Tampa, Florida or Jacksonville, Florida should there be a specified threat, pulse operation, or even in support of a National Security Special Event like the Superbowl. Finally, the capability to provide an expeditionary rapid reaction force would be necessary to respond to imminent threats.

Just as the plan must integrate the various national strategy objectives, functional strengths, and risk it must also integrate the entire maritime domain. More over, providing surveillance, detection, response off shore must be integrated to the surveillance, control, and response in the ports.

D. PORTS

The implementation of the national strategy in the ports can be built upon three functional capabilities: controlled movement, rapid investigation and response, and full integration of shore side (global) efforts.

The implementation of the national strategy must address the ports as thoroughly as the littorals. However

complicated the integration of security and defense functional responsibilities and capabilities may seem in the littorals, they pale in comparison to the ports. The ports must integrate all those entities, capabilities, and strategies from the littorals and add in the private sector, local and state governments.

For example, the resources provided to the 2004 G8 Summit at Sea Island, Georgia included:

- Over 1,200 people
- Over 200 boats
- 5 Coast Guard Cutters
- 1 Navy Coastal Patrol Boat
- 11 Helicopters
- 1 fixed wing aircraft
- 2 mobile command posts³⁹

The resources were provided by numerous federal, state, and local maritime entities. The water security planning efforts lasted 10 months. While the security failure consequences were exceptionally high, the time frame was limited and specific. And, the maritime accesses were remote and controllable. More succinctly, it was easy to protect Sea Island Georgia. It will not be as easy to control major ports like Chesapeake Bay, New York Harbor, Boston Harbor, San Francisco, or Puget Sound.

1. Port 'Control'

In the context of enhancing positive control of the ports, the NORAD-like surveillance, detection and response offshore provides a warning of danger. Ideally the threat

³⁹ Presentation by LCDR Lawrence Greene on Operation Eagle Host, Sea Island Summit 2004

is eliminated. However, in the cases when the threats make it past the littorals and into the port, or they originate in the port there must be the ability to control the port quickly.

The most applicable example at present is the airport. All traffic on the tarmac is centrally controlled, monitored, and security is maintained. Similarly, security internal to the airport is a system of gates, sensors, inspections, that reduces risk. Combined they systems work well to enhance air security. One of the critical flaws in the air security system for this analogy is that when an individual triggers sensors, unattended bags are discovered, or positive suspect screenings occur the result is the terminal being shut down. Traffic flow in the terminal stops, and potential aircraft traffic on the tarmac is detoured or delayed. In modeling the airport to the maritime port it is not practical to think that the port could be closed, and even if we could the negative economic impact makes the decision prohibitive. The cost of maritime port closure is exorbitant. During the Los Angeles/Long Beach longshoremen's strike in 2002 it was estimated that the industry lost between \$1 billion and \$2 billion a day.⁴⁰ Ports are geographically several orders of magnitude larger than airports. More importantly, security, commercial, and private vessels operate in the port autonomously. There is no equivalent to the Air Traffic Control Tower in the ports.

However, each port does have a port control authority. Typically these port control authorities are poorly equipped to actually control traffic. Most operate only to

⁴⁰ <http://www.wtcanet.org/press5.htm>, 15 December, 2004

deal with the largest ships. Traffic moves about the larger ships freely and anonymously. However, Naval Bases are quite a different story. Movement in the harbor associated with a military base is controlled by the harbor control. For example, the Naval Station Mayport Port Control authority grants all ship movements, monitors the movements, and investigates unauthorized movements. While the Naval Base at Mayport is small and easily controlled, the model can be extrapolated to larger and more complex ports. A 24-hour lookout with a set of binoculars provides surveillance of the Mayport Harbor. In Chesapeake Bay their needs to be a command center with numerous remote sensor systems to provide an accurate picture of movement. In addition, their needs to be fleet of vessels ready to respond to unauthorized vessel movements that need to be investigated. The Coast Guard initiated a project to create port command and control nodes in critical ports, however the centers do not have resources assigned. To clarify, the intent is not to impose restrictions on access and movement. The intent is to shift from the random anonymous open access to a controlled environment. The implementation of the 96-hour notification for vessels coming into the United States is an excellent example. Requiring advanced notice of port movements provides the necessary inputs to enhance the control of the port. The advanced notice has to be nominal enough to provide the opportunity for the command and control structure in the port to evaluate the vessel, crew, and cargo in the context of other movements in the port. Also, it provides the port the opportunity to provide enhanced support to vulnerable assets, and also provide for full spectrum response when threats are exposed or further investigation is necessary.

However, to assure that maritime freedoms are not infringed the requirement in the port must be more limited than the 96 hours and the burden of tracking but access granted through a control entity.

2. Investigation and Response

There are port and harbor control facilities in various sized ports around the coastline, which greatly varying levels of control. However, the number of entities with jurisdictional, commercial, or private security interests in the ports is almost unlimited. Frequently these entities operate autonomously, with little coordination to pool capabilities and resources. Controlling the ports requires more than knowledge of vessels, crews, and cargos in the port but also includes investigating vessels, crews, and cargos. An appropriate level of investigation and response requires a level of actual presence roaming the ports along with a surge capacity to dispatch capabilities to investigate or respond to threats. A fleet of small boats can provide low level investigation and presence. However, the small boats and commensurate small crews are poorly equipped to deal with the full spectrum of security and defense missions. The Coast Guard's Maritime Safety and Security Teams provide an innovative effort to address the response piece. However the teams effectiveness could be improved by more lethal weapons systems and surface and air support. Just as every Cutter or Naval Combatant operating in the littorals needs a capable helicopter to enhance the response timeline and coverage, so too does the port. Rapid investigation and

response dictates that surge capabilities with an on-call delivery system be available.

Consistent with the overarching principle of risk management, the most significant ports' need significant capability all the time. However, there will be many more ports that require substantially less than a full time capability. The spectrum of standby capabilities can be adjusted from immediate, to hours, to longer.

3. Full Integration of Shore Side Efforts

The plan to enhance security is balanced upon port control, investigation and response, and full integration of the shore side efforts. The shore side efforts include the port security initiative (PSI), the container security initiative, Operation Sea Marshall, the efforts of the international community, and the efforts of the local police. Just as port control requires a command and control system in the port, so to does the integration of shore side efforts. Part of the solution to implementing the national strategy is to recognize that the ports require a robust command and control structure to be able to accomplish port control, investigation and response, and to fully integrate the efforts of the global maritime community.

CHAPTER IV: THE WAY AHEAD - BUDGET

The process of interpolating the national strategy in the littorals and ports has been clarified. However, the national strategies and operational concepts in the port are useless unless the strategies and concepts are supported in the budget. The strategy and concepts are dependent upon appropriate resources and an appropriate amount of resources.

Both the Coast Guard and Navy are guilty of fixation on the application of current resources and capabilities to meet the new responsibilities. The threat has changed, and so must our strategy, plans, and resources to meet that threat.

The Navy leadership sees the warfighting environment in terms of four navies; the History of the Navy, today's Navy, Tomorrow's Navy, and the Navy after next.⁴¹ The four navies translate in budget terms to; focus on maintaining the legacy fleet, modernizing the current fleet, building the fleet for tomorrow, and designing the future fleets. Similarly the Coast Guard is engaged in the Deepwater Acquisition project, intended to replace or modernize the aged fleet of cutters and aircraft. Both services face significant modernization and replacement challenges.

⁴¹<http://www.globalsecurity.org/military/systems/ship/streetfighter.htm>, 15 December, 2004

A. NATIONAL FLEET POLICY STATEMENT

The Commandant of the Coast Guard and the Chief of Naval Operations, both responsible for building the future Naval force of the United States, recognized the potential duplicity. The National Fleet Policy Statement signed in July 2002 states:

The Navy and Coast Guard, under the leadership of the Navy-Coast Guard Board (NAVGARD Board), will work together to plan and build a National Fleet of multi-mission assets, personnel resources and shore Command and Control nodes to optimize our effectiveness across all naval and maritime missions. The Navy and Coast Guard will coordinate, to the extent permitted under existing statutory authority, research and development, acquisitions, information systems integration, resourcing, force planning, as well as integrated concepts of operations, intelligence, logistics, training, exercises, and deployments. The Coast Guard and Navy will work together to plan, acquire and maintain forces that mutually support and complement each Service's role and missions.⁴²

While the policy statement seems clear, the phrase "will coordinate, to the extent permitted under existing statutory authority" seems to have been interpreted to mean in strict compliance with statutory authority. Since Navy and Coast Guard force planning, building, and design are not specifically addressed statutorily there has been no resultant meaningful coordination.

Both the Coast Guard and Navy conduct extensive operations in the littorals. However, the missions conducted are quite different. The Coast Guard has

⁴² National Fleet Policy Statement, signed by Admiral Vern Clark and Admiral Thomas Collins, 8 July 2002.

traditionally conducted law enforcement, search and rescue, domestic missions, and even expeditionary support to defense missions. The Navy has conducted warfare. The Coast Guard and Navy have co-existed in harmony and mutual support since inception. The creation of the Department of Homeland Security and the mission growth of the Coast Guard should serve to further strengthen the relationship between the maritime services.

B. LITTORALS



Budget projects in the littorals include the Coast Guard's Deepwater acquisition project, the Navy's Littoral Combat Ship, Streetfighter, Destroyer 21, as well as an evolving understanding of the requirements both in the homeland and expeditionary. At a glance, the Coast Guard's historical multi-missioned cutters are at odds with the Navy's warfighting combatants. The current reality is that the Coast Guard Fleet has little to offer in terms of compatible capabilities, or even independent warfighting capabilities. Likewise, the Navy has been reluctant to transition to a smaller, faster, more responsive fleet of combatants. Their strike and presence capability remains strong, but their capability in the littorals is suspect.

The table below provides comparative data concerning the Coast Guard's Deepwater Project Maritime Security Cutter Large and the Navy's Arleigh Burke Class Aegis Destroyers. Granted, the Navy is working to develop a more comparable Littoral Combat Ship, but for the purposes of budget discussion and developing a way ahead the Arleigh Burke Class Aegis Destroyers are adequate.

Table 1. Capability comparison between Maritime Security Cutter and Arleigh Burke Class Aegis Destroyer⁴³

	Maritime Security Cutter (Large)	Arleigh Burke Class Destroyers (AEGIS)
In-Service/Proposed	0/7	15/33
Year Commissioned	2006	2000-2011
Displacement Full Load (tonnes):	3,956	9,200
Length:	421	471
Beam:	54.2	66.9
Draught:	21	20.7
Range (nm):	12,000@9kts	4,400@20kts
Speed (knots):	29	31
Complement:	129	344
Guns:	<ul style="list-style-type: none"> 1 Bofors 57 mm/70 Mk 3; 220 rds/min to 9.3 n miles; weight of shell 2.4 kg. 1 General Dynamics 20 mm Phalanx Mk 15 CIWS. 4-12.7 mm MGs. 	<ul style="list-style-type: none"> United Defense 5 in; 20 or 10 (ERGM) rds/min; GPS guidance to 63 n miles; warhead 72 bomblets; cep 10m. 2 Hughes 20 mm Vulcan Phalanx 6-barrelled Mk 15; 4,500 rds/min combined to 1 n mile. Fitted with IR detectors for tracking small craft.
Missiles:	none	<ul style="list-style-type: none"> SLCM: GCD/Hughes Tomahawk; Tercom aided guidance to 700 n miles (TLAM-C and D) or 1,000 n miles (TLAM-C Block III) at 0.7 Mach; warhead 454 kg (TLAM-C) or 347 kg shaped charge. SAM: GDC Standard SM-2MR Block IV; command/inertial guidance; semi-active radar homing to 90 n miles.
Combat data systems:	To be announced.	TADIX-B and TADIL-J. CEC. Links 4, 11 and 16.
Weapons Control:	None	SWG-3 Mk 37 Tomahawk WCS. Aegis multitarget tracking with Mk 99 Mod 3 MFCS and three Mk 80 illuminators. GWS 34 GFCS (includes Mk 160 Mod 8 computing system and Kollmorgen Mk 46 optronic sight). Singer Librascope Mk 116 FCS for ASW.

⁴³ Jane's Fighting Ships website, table data drawn directly (registration required):
http://www4.janes.com/subscribe/jfs/doc_view.jsp?K2DocKey=/content1/janesdata/yb/jfs/jfs_3533.htm@current&Prod_Name=JFS&QueryText=, and
http://www4.janes.com/subscribe/jfs/doc_view.jsp?K2DocKey=/content1/janesdata/yb/jfs/jfs_5875.htm@current&Prod_Name=JFS&QueryText=,
 December, 2004

Radars:	<ul style="list-style-type: none"> • Surface search: TRS 3D/16; E/F-band. • Fire control: SPQ-9B; I/J-band. 	<ul style="list-style-type: none"> • Air search/fire control: RCA SPY-1D phased arrays; 3D; E/F-band. • Surface search: DRS SPS-67(V)3; G-band.
		

There is a significant problem with the proposed Maritime Security Cutter and the comparison to the Arleigh Burke Class Aegis Destroyer highlights the problem well. While the Maritime Security Cutter may seem like a good buy at \$140 million per Cutter verse the almost \$1 billion per Destroyer, the cost comparison does not adequately address the capability gap.⁴⁴ The guns planned for the Maritime Security Cutter have a range of 9.3 nautical miles with a 5-pound projectile. Comparing this against the Arleigh Burke Class which can send a Globally Position System tracked shell 63 nautical miles with 72 bomblet warheads. Or the Vulcan cannon system that can fire 4,500 rounds per minute out to 1 nautical mile, specifically fitted with infrared detectors for tracking small craft. Similarly the comparison on missiles, the Cutter has none and none planned. The Arleigh Burke Class has Tomahawks effective out to 1,000 nautical miles as well as Surface to Air Missiles effective out to 90 nautical miles. The weapons control and combat data systems are not comparable, only because the new cutter plans do not include the capabilities. Finally, the radars provided to the Cutter

⁴⁴ Coast Guard Reservist Magazine (online): <http://www.uscg.mil/hq/reserve/magazine/mag2004/v51-8/index.htm>, 15 December 2004.

are basic, while the Arleigh Burke Class is working with equipment several generations beyond.

The point is the approximate cost of an Arleigh Burke Class Aegis Destroyer is \$1 Billion dollars. The entire Deepwater acquisition project will include up to 91 ships, 35 fixed-wing aircraft, 34 helicopters, 76 unmanned surveillance aircraft, and upgrade of 49 existing cutters and 93 helicopters, and is estimated to cost \$17 billion.⁴⁵ However, if the new Maritime Security Cutters are delivered with guns, missiles, and radars only marginally better than the current legacy fleet then the cost is too *high*.

This is not to suggest that each of the new Maritime Security Cutters requires the weapons suite of an Aegis Destroyer. However, the Maritime Security Cutters must be able to detect, track, intercept, and potentially destroy threats.

As the National Fleet Policy Statement suggests, the Coast Guard and Navy must cooperate to design a non-redundant naval force. The current offensive strike challenged cutter fleet is a result of focus on domestic missions and acquisition economy. The threats in the maritime domain and the potential catastrophic impact to the country and global economy dictate that the new generations of cutters have substantial sensor, intercept, and even strike capabilities. The Coast Guard will continue to operate on the homeland littorals and must build ships to meet the challenges and requirements of the homeland littorals. Conversely, the Navy must build the appropriate combatant for the expeditionary littorals.

⁴⁵ <http://www.globalsecurity.org/military/systems/ship/deepwater.htm>, 15 December, 2004

While the ships should be similar and the opportunity for leveraging design, development and ship building is extraordinary there remains the necessary autonomy to select weapons, communications, propulsion suites that best suite each service's force requirements.

1. Deepwater Acquisition Project

The National Strategy states that our objective is not only to mitigate terror attacks, but also to detect and prevent terror attacks in the United States. Coast Guard Cutters are typically scheduled for approximated 185 patrol days per year, roughly half the year. To maintain a cutter on a specific station around the clock throughout the year would require 2.5 cutters: one cutter on station, one just having left station, and a portion of a cutter in overhaul status preparing for deployment. If the Coast Guard operational concept included maintaining cutters off of the 55 Tier one ports in the country it would require 138 cutters. A single cutter patrolling off of important ports would not provide the necessary surveillance, detection and response desired. More likely the Maritime Security Cutter Large would be assigned several Maritime Security Cutter Mediums, several Fast Response Cutters, and of course numerous Multi-mission Cutter Helicopters. Adapting the Navy's sea dominance theory, the Coast Guard must recognize the value of controlling the homeland littorals, off the 55 tier one ports. Just as the Navy controls the seas, sea lanes, and approaches through Battle Group presence, so too the Coast Guard must control the littorals through presence.

Thus, for a port like Los Angeles-Long Beach, California there may be a requirement for 2 Maritime Security Cutters-Large, 3 Maritime Security Cutters-Medium, 6 Fast Response Cutters, and 5 Multi-mission Cutter Helicopters. To support just the port of Los Angeles-Long beach would require: 5 Maritime Security Cutters-Large, 7.5 Maritime Security Cutters-Medium, 15 Fast Response Cutters, and 12.5 multi-mission Cutter Helicopters. The requirement for all 55 tier one ports would be (in order): 275, 412, 825, and 687. There are both economies and additional concerns.

These littoral operating groups offer economies in some geographic locations. For example, the ports of New York City and New Jersey could be combined into a larger operating group. Perhaps more Maritime Security Cutters Large and Medium would not be needed, but the additional Fast Response Cutters might. Similarly, the ports of Jacksonville, Florida, Savannah, Georgia and Charleston, South Carolina could be combined into a littoral operating group.

Unfortunately, the metrics do not address current Coast Guard missions. The Coast Guard relishes the sales pitch and economy of multi-missioned assets. However, the post 911 reality is that the expectation of Cutters assigned to provide maritime homeland security will not be conducting fisheries, migrant interdiction, counter drug patrols, or search and rescue at the same time. The Coast Guard needs to request forces to conduct numerous missions; However, the economy of multi-use platforms should not be confused with conducting multiple missions at the same time.

Single cutter presence 24-hours a day in each of the 55 ports and a roaming presence in the other ports would require approximately 148 cutters. Lineal application of the littoral operating group would require 1,512 cutters. The 148 to 1,512 Cutters should serve as the extreme boundaries to the discussion. By no means is a 1,512 Cutter Coast Guard realistic. Likewise, by no means does a 148 Cutter Coast Guard provide the resource capability to provide maritime homeland security and defense along the entire 95,000 mile coastline.

The current deepwater program calls for 91 cutters to conduct all Coast Guard missions. In a recent report by the Congressional Research Service (CRS) for Congress, the number of cutters was increased to 180, see table 3 below. However, the report suggests that only an additional 30 Cutters are needed for emerging missions, or maritime homeland security and defense. Just thirty cutters are needed to provide security to 55 tier one ports, 261 total ports, and 95,000 miles of coastline. As 911 demonstrated both our incredible vulnerability it also demonstrated our arrogance. The United States has been catching up to airline security long since in place in numerous other countries. While, the United States sea supremacy has been unchallenged it does not mean that we should not take the threat seriously.

As the Maritime Security Cutter and Arleigh Burke Class Destroyer comparison demonstrated, the Deepwater project desperately needs to address weapons, sensors, and communications networking systems. Both the quantity and capabilities of the Deepwater Project need to be addressed.

Table 2. Current Deepwater versus Updated Requirements⁴⁶

	Current Deepwater	Traditional missions	Emerging Missions	Total
Maritime Security Cutter Large	8	35	9	44
Maritime Security Cutter Medium	25	36	10	46
Fast Response Cutters	58	79	11	90
Maritime Patrol Aircraft	35	29	6	35
Recovery and Surveillance Aircraft	34	32	1	33
Multi-mission Cutter Helicopters	93	118	21	139
Unmanned Air Vehicles (UAV)	69	85	38	123
High Altitude Endurance UAV	7	21	4	25

At present, the new Maritime Security Cutters resemble the antiquated legacy cutter fleet too closely. While the Navy's Littoral Combat Ship capability set is more than the Coast Guard needs, it adequately provides the ability to sense, detect, intercept, and destroy if necessary. The Coast Guard could economize the weapons suite by reducing the redundant quantity of systems onboard, but not quality. For example, the cutters will not need 64 Tomahawk launch tubes, but perhaps 8 or 12 would be adequate. A component design that would enable selection of mission capability suites would be appropriate. The Navy and Coast Guard could autonomously work to develop mission suite requirements. Component packages would mix weapons, sensors, communication, and propulsion systems to meet specific mission requirements. A component design would enable the both the Coast Guard and Navy to increase or decrease capabilities as needed.

⁴⁶ CRS Report for Congress (Received through CRS Web), Coast Guard Deepwater Program: Background and Issues for Congress, Ronald O'Rourke, Specialist in National Defense, Foreign Affairs, Defense, and Trade Division.

C. PORTS

There are numerous projects in the ports, such as: the Container Security Initiative, the Joint Harbor Operations Centers, Littoral Surveillance System, Maritime Safety and Security Teams (\$76M), National Transportation Security Plan, US-Visit program, and the Automated Identification System. The Coast Guard and the Department of Homeland Security are working to tie all the initiatives together, while continuing to assess opportunities to enhance security in the ports.

Congress and the Department of Homeland Security have demonstrated leadership and commitment to enhance maritime security through the enactment of the Maritime Transportation Security Act of 2002, new security amendments to the International Convention for the Safety of Life at Sea 1974 (SOLAS), and its complementary International Ship and Port Facility Security Code (ISPS) strengthen and add additional protective layers of defense to our Nation's port security.⁴⁷ Congress and the Department of Homeland security have made sincere efforts to innovate through legislation and some supportive funding. The Coast Guard has been designated as the lead agency for maritime homeland security, and as such is the lead agency for the majority of maritime security enhancement efforts. The Coast Guard's leadership has been critical to the successes achieved to date.

1. Leadership

⁴⁷ Department of Homeland Security webpage: <http://www.dhs.gov/dhspublic/display?content=2036>, 15 December, 2004.

The Coast Guard's leadership has included a refreshing assertiveness and willingness to take responsibility. However, most impressively the Coast Guard recognized immediately that single-minded dictatorial imposition of policies and plans would be ineffective. Instead, the Coast Guard has sought to include as many interested agencies and partners as possible.

a. *All-Inclusive*

The maritime environment and particularly the ports are multi-jurisdictional with numerous customers critically important to the security of the port infrastructure. The connection between maritime security and ensuring free trade is direct. Economic independence and growth is dependent upon enhanced maritime security. The Coast Guard has included commercial shipping enterprise, local, state, and federal enforcement agencies as well as the Department of Defense services in the enhanced maritime security effort.⁴⁸ The all-inclusive effort to spur innovation will have coincident impact in reducing cost associated with enhanced security. The all-inclusive effort may be difficult to quantify in terms of financial benefit, but quantifying enhanced effectiveness should not be difficult.

b. *Accuracy*

Coast Guard leadership must remain attentive to the absolute need for accuracy in assessing the current situation as well as the critical evaluation of numerous container, vessel, and port facility security plans. Development of the future Seamless Maritime Concept force is dependent upon an accurate assessment of threats,

⁴⁸ Stephen Flynn, *The Vulnerable Home Front*, Foreign Affairs, Sept/Oct 2004

vulnerabilities, and the necessary counter capabilities. For example, that the CRS is the only source for an updated Deepwater resource baseline is inappropriate. The Coast Guard must move quickly to develop a comprehensive plan that incorporates the traditional missions and emerging missions into a comprehensive recapitalization plan.

2. Commitment

The initial enactment of legislation and attempts to coordinate innovation to meet the challenge of enhanced maritime security has been excellent. The designation of the Coast Guard as the lead federal agency for maritime homeland security and significant increase in the Coast Guard budget since 911 has demonstrated concern over the maritime domain vulnerabilities.

Table 3. Coast Guard Operating Expenses and Deepwater Project Budgets for Fiscal Years 1992 and 2000 through 2005⁴⁹

USCG	1992	2000	2001	2002	2003	2004	2005
Total Budget (% change)	\$3,570M	\$4,831M (4%/yr)	\$4,951M (2%)	\$5,577M (13%)	\$7,149M (28%)	\$6,655M (-7%)	\$7,760M (17%)
Operating Expenses (% change)	\$2,493M	\$2,852M (<2%/yr)	\$3,485M (22%)	\$3,902M (12%)	\$4,635M (19%)	\$4,919M (6%)	\$5,173M (5%)
Deepwater Funding	-	\$73M	\$42M	\$320M	\$475M	\$645M	\$678M

Between 1992 and 2001 the total Coast Guard budget increased at less than 4% per year. Coming out of the service survival budget battles through the 1980s, the

⁴⁹<http://www.uscg.mil/hq/g-cp/comrel/factfile/index.htm>, and www.millennium.marmot.org:90/.../13,43,195,E/frameset&FF=dspace+shuttles+management&1,1, 15 December, 2004.

budget remained essentially stagnant through 2001. Then in 2002 it jumped to 13%, only to jump another 28% in 2003. However, the Operating Expenses budget was being increased at less than 2% per year through the 1990s. Considering the cost of living increases, a less than 2% increase is an operating expense budget decrease in real dollars. The significant and sustained increase in 2001 and beyond can be attributed to mission growth, or increased maritime homeland security and defense missions.

Similar to the total Coast Guard budget and operating expenses budget the deepwater project was not fully funded. Just as the damage to resources and operations can not be recouped by simply increasing the budget in future years the same amount shorted in previous years, neither can the Deepwater project catch up to original cost and delivery projections.

Thus commitment to enhanced maritime security and defense calls for long term congressional budget support. However, in reality the Coast Guard must commit necessary resources to recapitalization even when measured against reducing current operations. For example, it is more important to commit to recapitalization than it is to engage in costly maintenance and repair of increasingly antiquated and capability challenge fleet of cutters. If the choice is to push forward with recapitalization or to repair a minimally effect cutter --- push forward with recapitalization. The Coast Guard must be willing to demonstrate commitment above and beyond any expectation of commitment from Congress.

CHAPTER V: SUMMARY

To defeat this [asymmetric terrorist] threat we must make use of every tool in our arsenal—military power, better homeland defenses, law enforcement, intelligence, and vigorous efforts to cut off terrorist financing. The war against terrorists of global reach is a global enterprise of uncertain duration... - President George W. Bush, September 17, 2002⁵⁰

Implementing the Seamless Maritime Concept into all phases of maritime homeland security and defense is an essential step in achieving President Bush's prescription to utilize our Nation's every tool in the fight against global terror. We must tie together resources across all seams (Federal, State and Local; military, law enforcement, and commercial. We must overcome jurisdictional issues, roles and mission debates, information sharing challenges, and diversity of purpose. It is an enormous undertaking. Critical to the success of the Seamless Maritime Concept are leadership, cooperation, and technological application and innovation.

A. LEADERSHIP

The world is changing and so to is our response to it. The Department of Homeland Security, at the direction of the President, implemented the National Incident Management System (NIMS) in March 2004. The NIMS will enable responders at all jurisdictional levels and across all disciplines to work together more effectively and

⁵⁰ President George W. Bush, *National Security Strategy*, the White House, 17 September, 2002.

efficiently. One of the best practices being implemented into NIMS is the Incident Command System (ICS). ICS is a standard, on-scene, all-hazards incident management system already in use by firefighters, hazardous materials teams, rescuers and emergency medical teams. The ICS has been established by the NIMS as the standardized incident organizational structure for the management of all incidents.⁵¹

The maritime domain and the Seamless Maritime Concept are similar in theory. Significant effort has been spent attempting to nail down the roles and missions associated with maritime homeland security and defense. However, it is clear that the respondents to the event are standardized. Like scenario two from Chapter 1, if there is intelligence of a vessel with a man-portable air defense system off the coast of Boston, Massachusetts the maritime respondents are clear. NIMS and the ICS ensure standardized terminology, tactics, procedures, and concepts. The ICS becomes the leadership from different responding agencies and services and a discussion on best possible intervention. This is not far from how we plan to handle maritime events now. The critical difference is that the ICS must expand beyond just the Coast Guard and Navy. To be as effective as possible, the ICS must be seamless across the maritime domain.

The NIMS and ICS are emergency management equivalents of the Seamless Maritime Concept. Just as all emergency responders have similar purpose, so too do the maritime

⁵¹ Federal Emergency Management Agency Website, National Incident Management System and Incident Command System links: http://www.fema.gov/txt/nims/nims_ics_position_paper.txt, 15 December, 2004.

respondents. Determining the responding agency or service may be much more of an availability issue, than a roles and mission's issue.

The Coast Guard's effort to be all-inclusive in maritime domain awareness and maritime homeland security discussion exemplifies the intent of NIMS and the ICS.

B. COOPERATION

Cooperation, as opposed to leadership, is the alignment and leveraging of effort. The maritime domain entities need to move beyond simple cooperation. For example, the Coast Guard and Navy have a long standing relationship of support. However the relationship must evolve to recognize the opportunity to leverage similar efforts. There are two opportunities for leveraged cooperation: Naval Coastal Warfare and the National Fleet. The Coast Guard Area Commanders are currently designated as the MDZ Commanders, and as such have a significant role to play in the Naval Coastal Warfare way ahead. Further, the Coast Guard has extensive experience in the coastal regions, ports, and harbors. The Coast Guard continues to be an excellent fit to meet the demands of both expeditionary and domestic Naval Coastal Warfare and coastal defense missions. This is not to say that the Navy does not have a role, quite the contrary. Naval Coastal Warfare missions provide an exemplary opportunity for the services to leverage core expertise and competencies into the best possible employment of forces. The second example is National Fleet. The issue of building Naval Combatants capable of forward presence and strike is a complex one.

Over simplifying the problem by stating that new Deepwater Project Maritime Security Cutters require the same capability set is misleading. However, there remains significant overlap in the design capabilities between the ships. There are significant opportunities to cooperate through a joint programming office and reap economies in design, development, cost, and ensure interoperability.

The significant challenges in the maritime domain require a seamless response. A seamless response requires the maritime entities leverage cooperation to gain efficiencies.

C. TECHNOLOGICAL APPLICATION AND INNOVATION

New Maritime Security Cutters, new weapons systems, new surveillance and detection systems, and new communications systems are examples of the application of new technologies. The MSTA implementation of the AIS is another example of technological innovation and application. Development and application of technology across the maritime domain continues at a steady pace.

As the Seamless Maritime Concept becomes more sophisticated and supports the various maritime missions and numerous maritime respondents, the continued application of technology remains critical to success. The constant examination of successful technologies in other domains and the search for developing unique maritime technologies mandates a constant examination of the maritime seams and leveraged cooperation.

For example, a newly outfitted Maritime Security Cutter could be leverage to provide surveillance, warning, and law enforcement or military response off the coast of a Tier one port. The presence of a capable Coast Guard Cutter should free other resources to pursue other missions. If the Coast Guard Cutter is conducting law enforcement off the coast, it should free some of the state and local maritime assets in the port. Similarly it should free the Navy from a potential defense readiness perspective, perhaps lengthening the standby status of regional Naval Combatants.

For technology to be leveraged in the seamless maritime concept, the leveraging of Customs vessels conducting security and law enforcement patrols, or State maritime vessels conducting surge operations must also be maximized.

Technology is the innovation of better surveillance, better detection, better communications and weapons systems. But technological innovation and application is also fed back into the strategic concepts, to ensure maximum efficiency.

D. CONCLUSION

"The world changed on September 11th, 2001. We learned that a threat that gathers on the other side of the earth can strike our own cities and kill our own citizens. It's an important lesson; one we can never forget. Oceans can no longer protect America from the dangers of this world. We're protected by daily vigilance at home. And we will be protected by resolute and decisive

action against threats abroad." - President George W. Bush, September 17, 2002⁵²

It is appropriate that each of the maritime domain respondents retain their identities and autonomy. The Seamless Maritime Concept identifies the opportunity to move beyond roles and missions, beyond a single focal point of response, and beyond operational and resource inefficiencies.

The Seamless Maritime Concept is a sophisticated strategy that seeks to leverage the strengths of each service and agency, and share information, resources, and opportunities across the domain.

⁵² President George W. Bush, *National Security Strategy*, the White House, 17 September 2002.

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